Clean Version of Claims

1. (Amended) Method for navigating in the interior of the body using three-dimensionally visualized structures, comprising the following steps:

- providing at least two two-dimensional images of the same anatomical object from different perspectives and also of information which makes it possible to draw a conclusion about the respective spatial position of an imaging system relative to the anatomical object;
- defining a projection of a geometrical structure to be visualized or a part thereof in each two-dimensional image, wherein the geometrical structure to be visualized is different from the anatomical object;
- generating a conical surface in space for every image, wherein the spatial positions of cone vertex and cone directrix are determined from the respective spatial position of the imaging system and the shape of the cone directrix is determined from the shape of the projection of the geometrical structure to be visualized;
- forming a spatial intersection of the individual conical surfaces to determine the geometrical structure; and
- displaying the geometrical structure determined and/or an intersection of a plurality of geometrical structures determined and using the representation for navigation.

2. (Amended) Method according to Claim 1, wherein the created projection of the geometrical structure is a point, a straight line, a circular segment or another structure having the form of a line.

3. (Amended) Method according to Claim 1, wherein the geometrical structure to be visualized is a point, a straight line, a plane, a sphere or another two-dimensional or three-dimensional structure.

4. (Amended) Method according to Claim 1, wherein the two-dimensional images are generated by X-ray methods and/or magnetoresonance methods.

5. (Amended) Method according to Claim 1, wherein the spatial intersection is revised using at least one further data set of the anatomical object.

6. (Amended) Method according to Claim 5, wherein a two-dimensional or three-dimensional image or a generic model of the anatomical object is used as further data set.

7. (Amended) Method according to Claim 1, wherein suitable perspectives are determined for further two-dimensional images by inverse calculations.

8. (Amended) Method according to Claim 1, wherein the spatial position of an instrument to be navigated is shown graphically relative to the geometrical structure or to the intersection.

9. (Amended) Method according to Claim 1, wherein the effective axis of the surgical instrument is shown graphically.

10. (Amended) Method according to Claim 1, wherein the individual two-dimensional images are shown graphically taking account of the positions from which the images were taken.

11. (Amended) Method according to Claim 1, wherein a navigation aid in the form of a tunnel structure is shown graphically.

12. (Amended) Method according to Claim 11, wherein in addition to the navigation aid, a separate direction indicator is shown graphically for the navigation of the surgical instrument.

13. (Amended) Method for navigating in the interior of the body using three-dimensionally visualized structures, comprising the following steps:

- providing at least two two-dimensional X-ray images of the same bone from different perspectives, of information that makes it possible to draw conclusions about the respective spatial position of an X-ray imaging system relative to the bone, and also a magnetoresonance data set of the bone;
- defining a projection of a surface or of an outline of the spongiosa of the bone in every two-dimensional X-ray image;
- generating a conical surface in space for every image, wherein the spatial positions of cone vertex and cone directrix are determined from the spatial position of the imaging system and the shape of the cone directrix is determined from the shape of the defined projection;
- forming a spatial intersection of the individual cone surfaces to determine a first model of the spongiosa;
- determining a second model of the spongiosa from the magnetoresonance data set;
- generating a representation of the bone by combining the two models and use of the representation for the purpose of navigation.